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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/838,717      | 04/19/2001  | Glen P. Gilfeather   | AMDA.516PA          | 8808             |

7590 10/24/2003  
CRAWFORD PLLC  
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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/838,717

Applicant(s)

GILFEATHER ET AL

Examiner

Tu T. Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

Detailed Office Action

*Claim Rejections - 35 U.S.C. § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kino et al (4,683,750) in view of Eriguchi (6,395,563).

With respect to claims 1,14, Kino discloses a system for analyzing semiconductor dies (column 9, lines 1-10). The system comprises: a laser beam for perturbing the die, analyzing the thermal of the bond of the die (column 9, lines 1-10).

Kino does not disclose a semiconductor analysis arrangement and a fiber cable to direct light from the laser to the die. Eriguchi discloses a semiconductor analysis arrangement 5 (fig 2) for holding a semiconductor 22 (fig 2) and a fiber cable 11 (fig 2) for transmitting the laser to the semiconductor. It would have been obvious to modify Kino's system with Eriguchi to facilitate the testing.

With respect to claims 2,17, Eriguchi discloses a light direction arrangement 24 (fig 2).

With respect to claims 3,16, Kino discloses a laser source (column 9, line 4).

With respect to claim 4, Eriguchi discloses a fixture 21 (fig 16) for holding the semiconductor die.

With respect to claim 5, the claimed arrangement for evacuating a chamber would have been known. It would have been obvious to modify Eriguchi with a system for evacuating the chamber to make the system more efficient.

With respect to claim 6, Eriguchi discloses a light source 8 (fig 1) located outside the test chamber 5 (fig 1).

With respect to claims 7-8, Eriguchi discloses a controller 13 (fig 1). However, Eriguchi does not explicitly disclose a computer. Using a computer as a controller would have been known. It would have been obvious to use a known computer as a controller to control the system faster.

With respect to claim 9, Eriguchi does not disclose a protective fiber optic waveguide. However, using a protective fiber optic waveguide to protect the fiber would have been known. It would have been obvious to use the known protective waveguide to protect the fiber from damage.

With respect to claim 10, Eriguchi discloses a fiber 11 (fig 1) for directing the light to the die.

With respect to claims 11-12, Eriguchi discloses a detector 9 (fig 1) to detect the defect of the wafer.

With respect to claim 13, Kino discloses a perturbation device (column 9, line 4) and Eriguchi discloses a system for detecting the wafer. It would have been obvious to modify Kino with Eriguchi to facilitate the testing.

With respect to claim 15, refer to discussion in claim 1 above for the system and refer to discussion in claim 13 above for the perturbation device.

With respect to claim 18, Eriguchi does not explicitly disclose detecting the cause of a failure of the die. However, the skill in the art would have been motivated to modify Eriguchi to detecting the cause of the failure to fix the problem easier.

With respect to claim 19, Eriguchi does not disclose a vacuum chamber. However, using a vacuum chamber for analyzing a wafer would have been known. It would have been obvious to modify Eriguchi with the known vacuum chamber to enhance the testing.

***Response to Arguments***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



**Tu T. Nguyen**  
**Primary Examiner**  
**Group Art Unit 2877**

10/14/03